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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/360,453	07/26/1999	HIROSHI SUGITANI	35.G1250DIV.	4210

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EXAMINER

TUGBANG, ANTHONY D

ART UNIT	PAPER NUMBER
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3729

DATE MAILED: 07/31/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/360,453

Applicant(s)

SUGITANI ET AL.

Examiner

Dexter Tugbang

Art Unit

3729

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 April 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 7-17 is/are pending in the application.
- 4a) Of the above claim(s) 16 and 17 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 7-15 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 26 July 1999 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☒ Certified copies of the priority documents have been received in Application No. 08/281,006.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2. 6) ☐ Other: _____

DETAILED ACTION

Election/Restrictions

1. The decision on the petition (Paper No. 9) filed by the applicants has been granted (in Paper No. 10). An action on the merits is as follows.

2. Restriction to one of the following inventions is required under 35 U.S.C. 121:

I. Claims 7-15, drawn to a method of manufacturing an ink jet head, classified in class 29, subclass 890.1.

II. Claims 16 and 17, drawn to an apparatus for manufacturing an ink jet head, classified in class 29, subclass 729.

The inventions are distinct, each from the other because of the following reasons:

3. Inventions of Groups I and II are related as process and apparatus for its practice. The inventions are distinct if it can be shown that either: (1) the process as claimed can be practiced by another materially different apparatus or by hand, or (2) the apparatus as claimed can be used to practice another and materially different process. (MPEP § 806.05(e)). In this case, the process of Group I can be performed by hand. For example, the application of *force* on the wall member or the *vibrating force* on the substrate can each be performed by hand as opposed to the vibration means required by Group II.

4. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art because of their recognized divergent subject matter, restriction for examination purposes as indicated is proper.

5. During a telephone conversation with Mr. Doug Pinsky on May 10, 2002, a provisional election was made without traverse to prosecute the invention of Group I, claims 7-15.

Art Unit: 3729

Affirmation of this election must be made by applicant in replying to this Office action. Claims 16-17 have been withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

6. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

Drawings

7. The drawings are objected to because Figures 1 and 2 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Specification

8. The abstract of the disclosure is objected to because the content of the abstract is not drawn to the claimed invention, i.e. method, and the length appears to longer than 150 words. Correction is required. See MPEP § 608.01(b).

9. Applicant is reminded of the proper content of an abstract of the disclosure.

A patent abstract is a concise statement of the technical disclosure of the patent and should include that which is new in the art to which the invention pertains. If the patent is of a

Art Unit: 3729

basic nature, the entire technical disclosure may be new in the art, and the abstract should be directed to the entire disclosure. If the patent is in the nature of an improvement in an old apparatus, process, product, or composition, the abstract should include the technical disclosure of the improvement. In certain patents, particularly those for compounds and compositions, wherein the process for making and/or the use thereof are not obvious, the abstract should set forth a process for making and/or use thereof. If the new technical disclosure involves modifications or alternatives, the abstract should mention by way of example the preferred modification or alternative.

The abstract should not refer to purported merits or speculative applications of the invention and should not compare the invention with the prior art.

Where applicable, the abstract should include the following:

- (1) if a machine or apparatus, its organization and operation;
- (2) if an article, its method of making;
- (3) if a chemical compound, its identity and use;
- (4) if a mixture, its ingredients;
- (5) if a process, the steps.**

Extensive mechanical and design details of apparatus should not be given.

10. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and **generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words.** It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

11. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

The following title is suggested: A Method of Manufacturing an Ink Jet Head.

Priority

12. This application filed under former 37 CFR 1.62 lacks the necessary reference to the prior application. A statement reading "This is a application is a Divisional of Application No. 08/281,006, filed 7/27/94, now U.S. Patent 5,992,981." should be entered following the title of the invention or as the first sentence of the specification. Also, the current status of the parent nonprovisional application(s) should be included.

Claim Rejections - 35 USC § 102

13. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

14. Claims 7 and 8 are rejected under 35 U.S.C. 102(a) as being anticipated by the Applicants' Admitted Prior Art, referred to hereinafter as the AAPA.

The AAPA (specification, pages 1-5 and Prior Art Figures 1 and 2) discloses a conventional manufacturing method of an ink jet head comprising: providing a plurality of recessed portions (in layer 1113) in the substrate (heater board 104); fitting the recessed portions to the flow passage walls 1109 of the wall member 105 by applying a force from a plate spring or elastic member (bottom of page 3) to align the flow passages with the energy generating elements 1110, 1102 (in Fig. 2); and providing a raised convex pattern of material 1113, 1114 (shown in Fig. 2) where the wall member has a recessed portion corresponding to the convex pattern.

Claim Rejections - 35 USC § 103

15. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

16. Claims 10, 11, 12, 14 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over the AAPA in view of Wiech.

The AAPA teaches the claimed manufacturing method as relied upon above. The AAPA does not teach fitting the recessed portions to the flow passage walls of the wall member by vibrating the substrate.

Wiech teaches assembling of walled members to unwalled members, i.e. substrate, (shown in Fig. 1) through the selection of material composition and vibration techniques to align and bond the members together (see col. 1, line 45 to col. 2, line 10). The overall benefits of such an assembling process provides for a simple and inexpensive manufacturing process (see col. 3, lines 17-21).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the method of the AAPA by fitting the recessed portions to the flow passage walls of the wall member by vibrating the substrate, as taught by Wiech, to positively allow for a simple and inexpensive manufacturing process.

Regarding Claims 10, 14 and 15, it would have been an obvious matter of design choice to choose any desired material of the convex pattern and amplitude of vibrations, since applicants have not disclosed that the claimed convex pattern material of an epoxy and amplitude

Art Unit: 3729

of vibrations of the substrate being smaller than the width of the recessed portion, solves any stated problem or is for any particular purpose and it appears that the invention would perform equally well with the convex pattern of material and amplitude of vibrations taught by the AAPA and Wiech, respectively.

17. Claims 9 and 13 rejected under 35 U.S.C. 103(a) as being unpatentable over the AAPA in view of Wiech, as applied to claims 7, 8, 11 and 12 above, and further in view of Drake.

The AAPA, as modified by Wiech, teaches the claimed manufacturing method as previously discussed. The modified AAPA method does not teach a dummy nozzle portion.

Drake shows a dummy nozzle portion (notch 16 in Fig. 2) for the purpose of aligning the wall member with the substrate (see col. 5, lines 10-16).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have improved the modified AAPA method by including the dummy nozzle portion, as taught by Drake, to have an additional aid in aligning the wall member with the substrate.

Conclusion

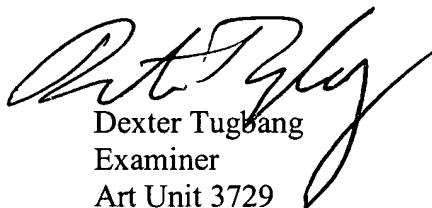
18. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

19. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dexter Tugbang whose telephone number is 703-308-7599. The examiner can normally be reached on Monday - Friday 9:00 am - 5:30 pm.

Art Unit: 3729

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Peter Vo can be reached on 703-308-1789. The fax phone numbers for the organization where this application or proceeding is assigned are 703-305-3590 for regular communications and 703-305-3588 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0858.


Dexter Tugbang
Examiner
Art Unit 3729

adt
July 29, 2002